



**UNITED STATES DEPARTMENT OF COMMERCE  
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/094,286	06/09/98	SUGIMOTO	1051774

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QM01/0805

EXAMINER  
WELDON, K

PART UNIT NO. PAPER NUMBER  
3752

DATE MAILED: 08/05/99

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

# Office Action Summary

Application No.

094256

Applicant(s)

Sugimoto v. d.

Examiner

IC Weldon

Group Art Unit

3752

☒ Responsive to communication(s) filed on 12/7/95

☐ This action is FINAL.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire Three month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claims

☒ Claim(s) 1-3 is/are pending in the application.

Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

☐ Claim(s) \_\_\_\_\_ is/are allowed.

☒ Claim(s) 1-3 is/are rejected.

☐ Claim(s) \_\_\_\_\_ is/are objected to.

☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been received.

☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

Art Unit:

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Arai 264767 .

In figure 2 the Arai patent discloses a valve plate having a plurality of first nozzles 21A arranged concentric to the axis, a plurality of second nozzles 21B on a second concentric circle larger in diameter than the first circle. The cross-sectional area of the second openings 21B is smaller in diameter than the cross-sectional area of the first openings 21A.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harper in view of Tani et al.

The Harper patent discloses a fuel injector having a plurality of concentric groups of nozzles in which the cross-sectional area of the openings on each outwardly succeeding concentric circle decreases in area and the acute angle they make with the axis increases (see

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column 2 lines 40-55). The claimed invention is distinguishable from Harper by its recitation of the openings being formed in a plate and a driving device.

It is deemed to have been obvious to one of ordinary skill in the art to disintegrate the valve housing in Harper into a separate plate and body as taught by Tani at 52 for ease in manufacturing and replacement as well-known in the art. Further, It is deemed to have been obvious to one of ordinary skill in the art to incorporate a drive means as taught by Tani 32 for more accurate injection control as well-known in the art.

5. With respect to the first 5 lines on page 1 of the specification only US Patents can be incorporated into the disclosure by reference.

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Sofinak, Romann and Kind are cited for their orifice plates. Suilzer is cited for its two orifice sizes.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Weldon whose telephone number is (703) 308-1117. The examiner can normally be reached on Tues-Fridays from 7 am to 6 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andres Kashnikow, can be reached on (703) 308-1137. The fax phone number for this Group is (703) 308-7764.



Kevin Weldon  
Primary Examiner

Serial Number: 08/518866

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703)308-0861.